The North Carolina AHEC Program (1972-78)

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Prepared by:

The North Carolina Area Health Education Centers (AHEC) Program
University of North Carolina at Chapel Hill

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The North Carolina AHEC Program

Program Description

The North Carolina AHEC Program, based in the Dean's Office of the UNC School of Medicine at Chapel Hill, is a STATEWIDE activity which links all four university medical centers with each of the state's 100 counties.

The critical element in this linkage is "the AHEC." Nine AHECs comprise the statewide program (see Map 1). Each AHEC is an incorporated non-profit tax exempt entity. Each AHEC Board reflects the interests of one or more major community hospital(s), their medical staffs, and other health service and educational institutions in the region.

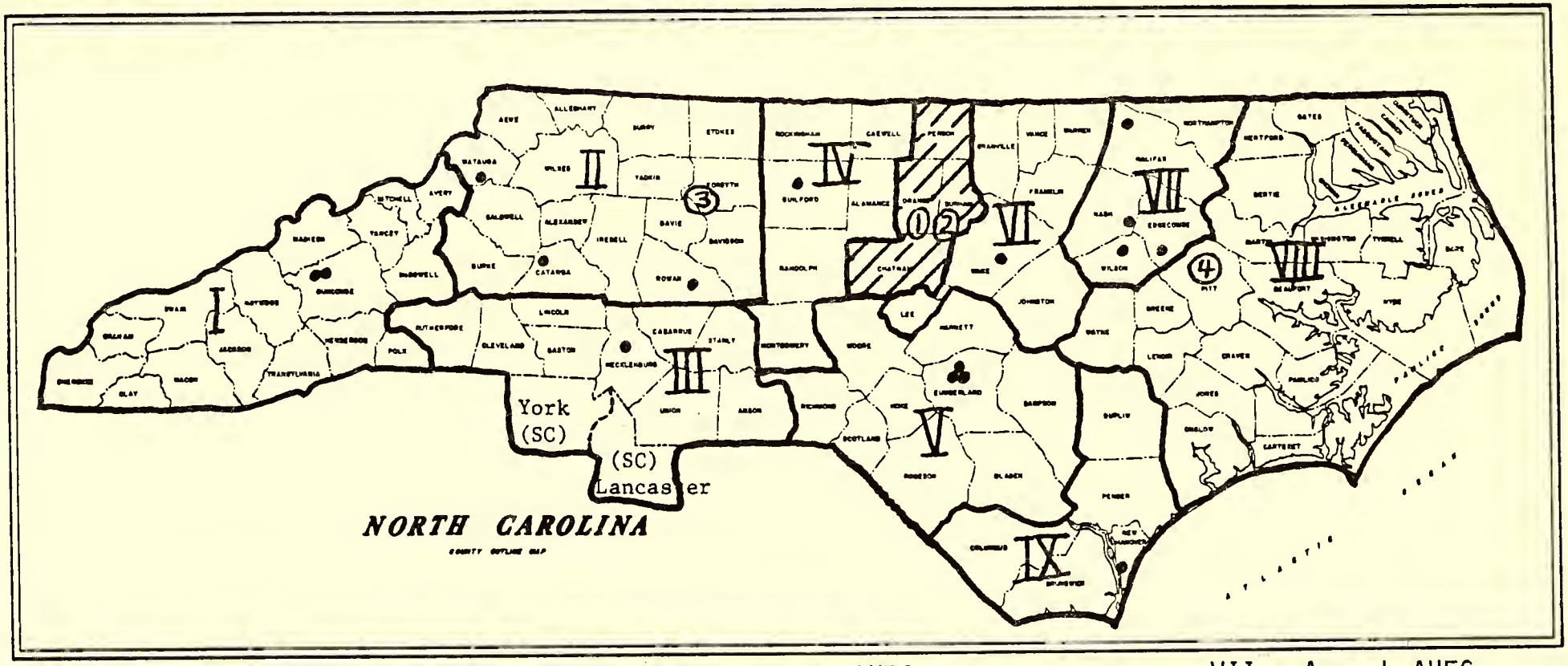
Each AHEC serves a defined number of counties in order to help meet manpower needs in the region. The AHECs meet these needs through education and training programs and through extensive technical assistance services to practitioners, support personnel, and institutions in their region.

Nine regional health education networks have been created. Each relates to the Program Director's Office through a performance-related cost-reimbursement contract. Each of the four university medical centers has a partnership role in the Program with each AHEC having its primary relationship to but one medical school.

Counties Served by the
North Carolina Area Health Education Centers Program

July 1, 1976

Map #1



I. Mountain AHEC
II. Northwest AHEC
III. Charlotte AHEC
IV. Greensboro AHEC
V. Fayetteville AHEC
VI. Wake AHEC
VII. Area L AHEC
VIII. Eastern AHEC
IX. Wilmington AHEC

Location of University Medical Centers: (1) U.N.C. at Chapel Hill, (2) Duke, (3) Bowman Gray, (4) East Carolina University

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The North Carolina AHEC Program

Support Base

The North Carolina AHEC Program has a broad and strong financial support base (see Table I). Early catalysts in 1967-1971 came from the Duke Endowment, community hospitals, and the North Carolina General Assembly. The federal government gave a significant boost to these efforts with an $8.8 million five year contract in 1972. This funding continues in 1978-79 at $1.8 million.

In 1974, the North Carolina General Assembly appropriated $28.5 million to assure the development of a statewide program. This appropriation included a one-time capital expenditure of $23.5 million for the construction of educational facilities and family practice residency training centers throughout the state. The appropriation also included what were the first of 300 grants of $15,000 each for the development of new primary care residency positions in North Carolina. The final portion of the appropriation was for faculty support and program operations in the nine AHECs.

As of October 1, 1978 the Program has a federal budget of about $1.8 million and a state budget of $13.6 million including $4.5 million for support of 300 new primary care residency positions. Although difficult to calculate the communities contribute about $1.2 million to the Program each year. This means the program is supported in the following manner:

Federal	11%
Local	7%
State	82%

Table I. Support Base of the North Carolina AHEC Program

1. Federal Contract (10/1/72 - 9/30/77): $8.8 million

   Federal Contract (10/1/77 - 9/30/78): $1.8 million

   Federal Contract (10/1/78 - 9/30/79): $1.8 million

   $12.4 million

2. State Appropriation (Began 7/1/74)

	7/1/74 - 6/30/75	7/1/75 - 6/30/76	7/1/76 - 6/30/77	7/1/77 - 6/30/78	7/1/78 - 6/30/79
Operating Budget	$4.5 million	$5.5 million	$6.7 million	$7.1 million	$9.1 million
Residency Grants	$1.1 million	$2.8 million	$3.9 million	$4.4 million	$4.5 million
Capital Grants	$23.5 million	N/A	N/A	N/A	N/A

3. Local Contributions

   -Practitioner Time

   -Hospital Staff Time, Facilities, etc.

   -Community Educational Institutions and Health Agencies

4. Percentage Breakdown (January, 1978)

   Federal.....11%

   State.....82%

   Local..... 7%

The North Carolina AHEC Program

Goal #1: Students

The Program is designed to decentralize the education of university based medical students and other health science students. These activities expose students to primary care, community practice, and community practitioners. These experiences are hospital-based, office-based, and health agency-based. They have been designed for students in medicine, dentistry, nursing, pharmacy, public health and allied health.

Accomplishments

1. The UNC/CH School of Medicine now conducts 34% of its clinical education for all students in AHECs. This is up from less than 4% in 1972. At any given time about 90 students are on AHEC rotations of 3-8 weeks duration
   --Table II shows this growth.
   --Map 2 shows the distribution of medical student training for all medical schools in North Carolina.
2. Due to the fact that most medical students who have taken AHEC rotations are still in training, we are about one year away from having data on where these students set up practice. Surveys of the classes of 1976 and 1977 indicate an increasing percentage of students who say they will choose primary care and settle in an underserved area.
3. In addition to medical students, AHEC provides extensive rotations for students in dentistry, nursing, pharmacy, public health, and allied health.

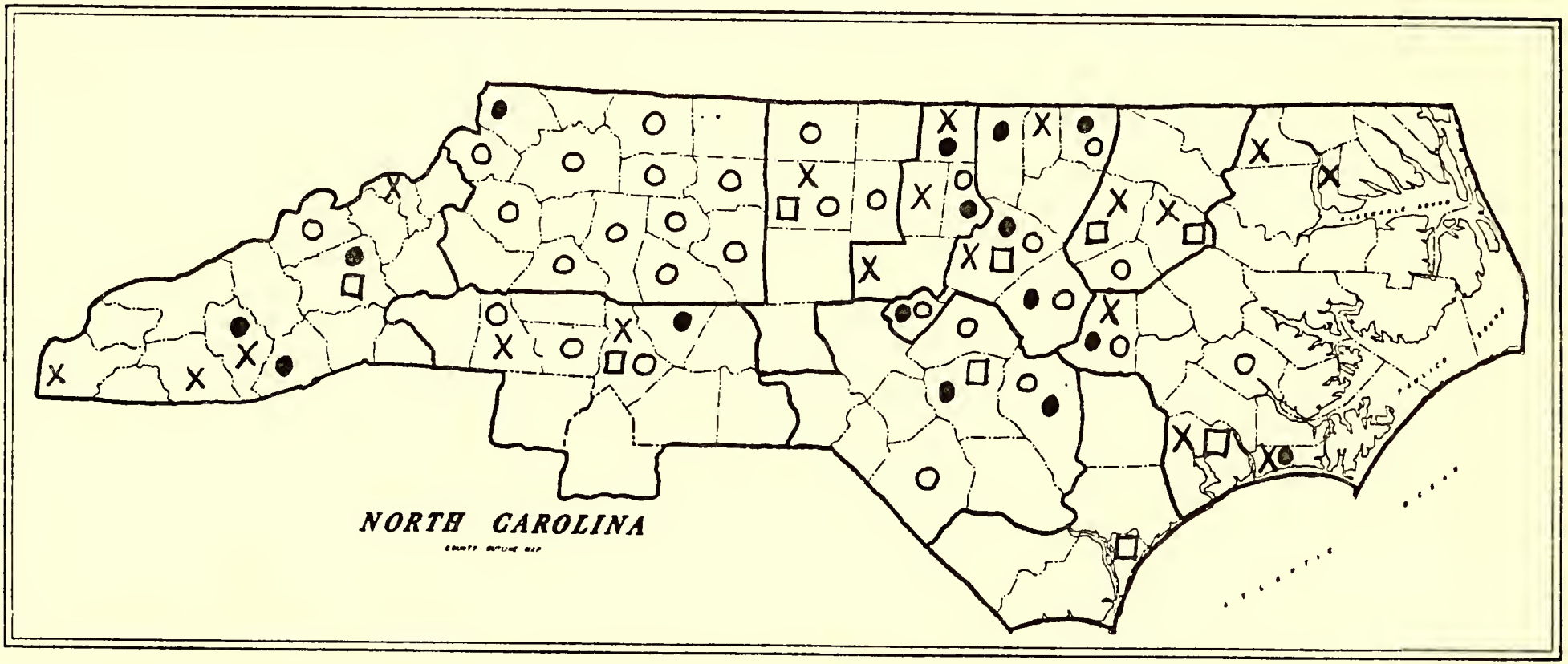
Table II. AHEC-BASED CLINICAL TRAINING OF THIRD AND FOURTH YEAR MEDICAL STUDENTS FROM UNC-CH

	1971-72	1973-74	1975-76	1977-78	1979-80 (PROJECTED)
Total Number of Third and Fourth Year Students	162	208	250	270	320
Percent Clinical Training in AHEC	4%	11%	21%	34%	34%
Number of Third and Fourth Year Students in AHECs at any given time	6	23	53	87	109
Full-Time Medical Faculty in AHECs	16	24	52	68	80

Map #2

The North Carolina AHEC Program

Location of Regular Assignments of Medical Students from UNC/CH, Duke, Bowman Gray During the 1976-77 Academic Year



X UNC/CH: FAMILY PRACTICE SELECTIVE

□ UNC/CH: CLINICAL CLERKSHIPS OR ACTING INTERNSHIPS

● DUKE: COMMUNITY MEDICINE

○ BOWMAN GRAY: COMMUNITY MEDICINE

The North Carolina AHEC Program

Goal #2: Primary Care Residents

The Program is designed to rotate primary care residents from the university medical centers and to have primary care residency programs based in the AHECs. There is a special emphasis on family practice. A specific goal mandated by the North Carolina General Assembly is for the Program to develop 300 new primary care residency positions in North Carolina by July 1, 1980.

Accomplishments

1. The Program has developed four new family practice residency programs and expanded four established programs in the State. It is now an integral part of all university-based and AHEC-based family practice residencies.
2. The Program has expanded all previously existing residency programs in internal medicine, pediatrics, and obstetrics-gynecology at each of the universities and in those AHECs having such residencies.
3. The Program has stimulated a broad dispersal of residency training opportunities throughout North Carolina (see Map 3).
4. The Program is on target with respect to the creation of 300 new primary care residency positions. Of these about 175 will be new positions in family practice. Table III summarizes this growth and indicates that AHEC has stimulated an 84% increase in the number of all primary care residency positions in North Carolina and nearly a 600% increase in family practice.
5. Due to the fact that these 300 new AHEC-supported residency positions have been created in a phased manner since 1974, it is still too early to have meaningful information on the practice site selection of the

graduates of these programs. Preliminary data from a 1977 survey of residents indicate, however, that approximately three-fourths of all AHEC-based residents intend to remain in North Carolina.

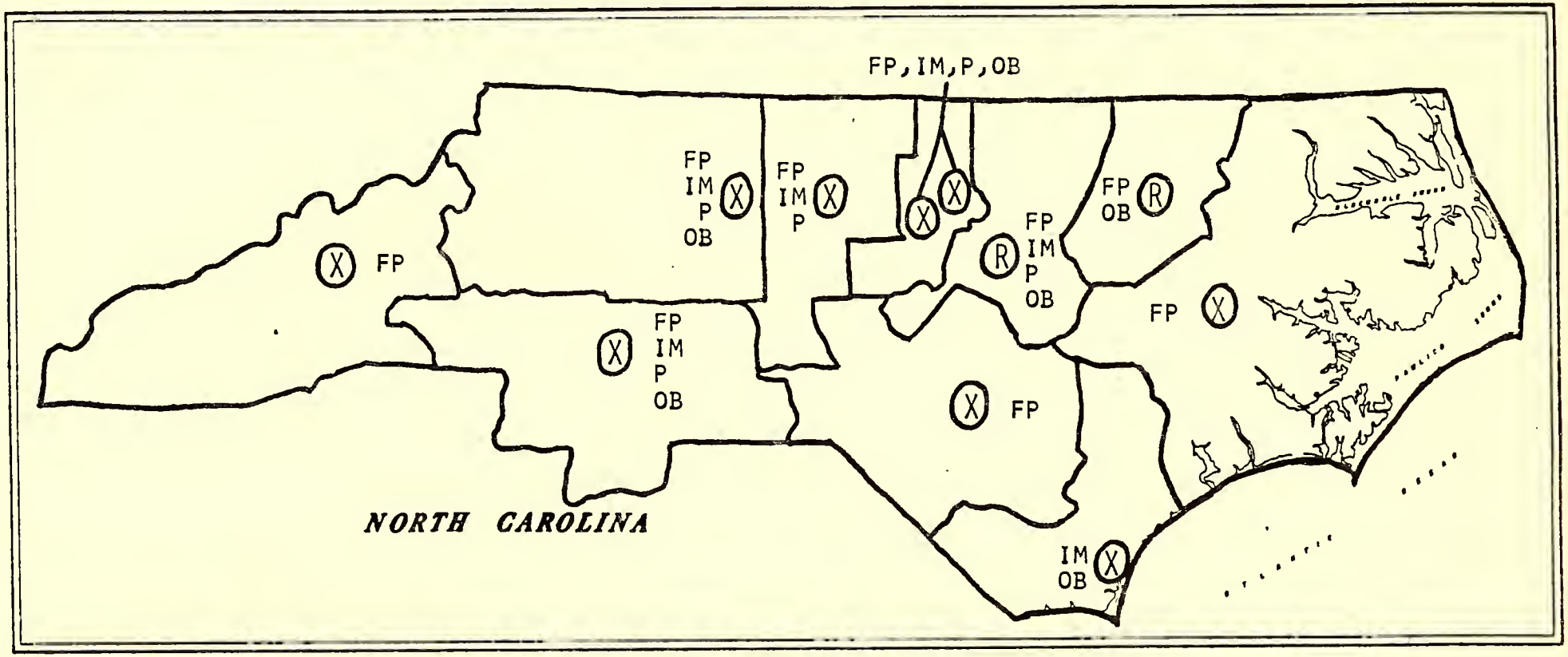
6. As of 1980 there will be a first year primary care residency position in North Carolina for at least 50 percent of all medical school graduates in the state during that year.

The North Carolina AHEC Program

Primary Care Residency Training

July 1, 1977

Map #3



(X) 3 YEAR TRAINING PROGRAMS

(R) ROTATIONS OF RESIDENTS FROM OTHER AREAS

PRIMARY CARE RESIDENCY PROGRAMS SUPPORTED IN PART BY THE NORTH CAROLINA AHEC PROGRAM

FP - FAMILY PRACTICE
IM - GENERAL INTERNAL MEDICINE
P - PEDIATRICS
OB - OBSTETRICS-GYNECOLOGY

Table III

The Changing Character of Primary Care Residencies in North Carolina

1973 - 1981

	1973-74		1980-81		New Positions	
	# Positions	Percent	# Positions	Percent	Number	Percent Change
Family Practice	30	8	205	30	175	+583
Internal Medicine	194	52	262	39	68	+ 35
Pediatrics	77	21	114	17	37	+ 48
Obstetrics-Gynecology	67	18	95	14	28	+ 42
TOTAL	368	100	676	100	308	+ 84

The North Carolina AHEC Program

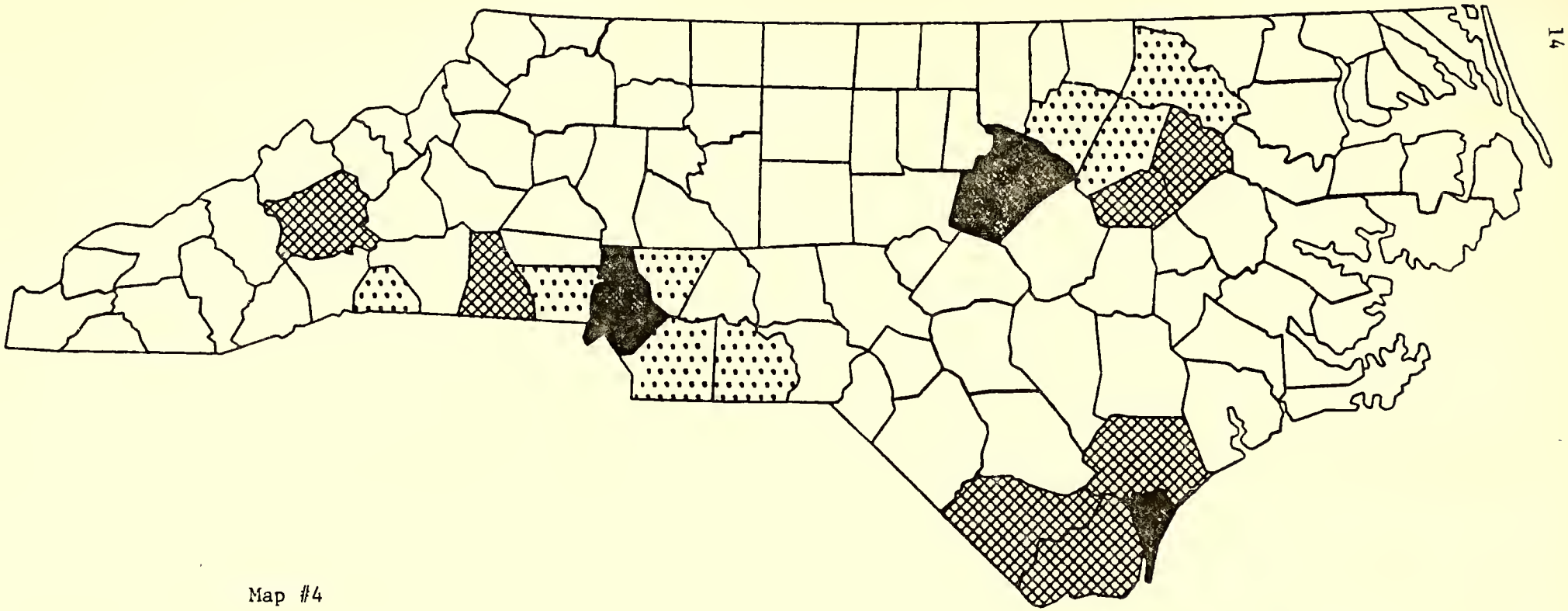
Goal #3: Community Practitioners and Support Personnel

The Program is designed to have each of the nine AHECs serve as the regional focus for continuing education programs for health professional and support personnel of all types. Programs are designed to meet locally perceived needs. They are presented at the AHEC centers and in surrounding counties. The Program has also been designed to have the full time staff and faculty based at each of the nine AHECs serve a technical assistance support function for their colleagues throughout their respective regions.

Accomplishments

1. The Program conducts formal continuing education activities in most of the counties of the state. Maps 4 and 5 show the growth and distribution of these activities since July 1973.
2. Attendance and contact hours at AHEC-sponsored continuing education programs have doubled during the past four years, while the number of counties in which programs were held has increased three-fold. During 1977-78 over 3200 AHEC-sponsored continuing education programs were conducted in 72 of the state's 100 counties (see Table IV).
3. Continuing education and technical assistance activities reach all types of health professionals and support personnel in each county. There are programs for hospital maintenance workers, food service workers, technologists, nurses, family physicians, urologists, etc. (see Table V).

4. One particularly important form of continuing education has resulted from the development of consultation clinics in small towns whereby specialists from the medical schools have direct contact with local physicians around their own management problems. Such clinics involving faculty, residents, and students are now being conducted regularly in about 15 towns and include radiotherapy, orthopedics, otolaryngology, dermatology, pediatric cardiology, gynecologic oncology, neurology, psychiatry, and rheumatology.
5. The Program is developing an integrated system of library and multimedia learning resource services which is reaching each of the smaller hospitals via the appropriate AHEC. The AHECs have developed a computerized inventory of holdings and have placed standardized television equipment in most of their counties. This assures that videotapes can be used by personnel throughout each AHEC region to augment the more formally organized lectures and workshops in continuing education.



Map #4

NORTH CAROLINA AHEC PROGRAM

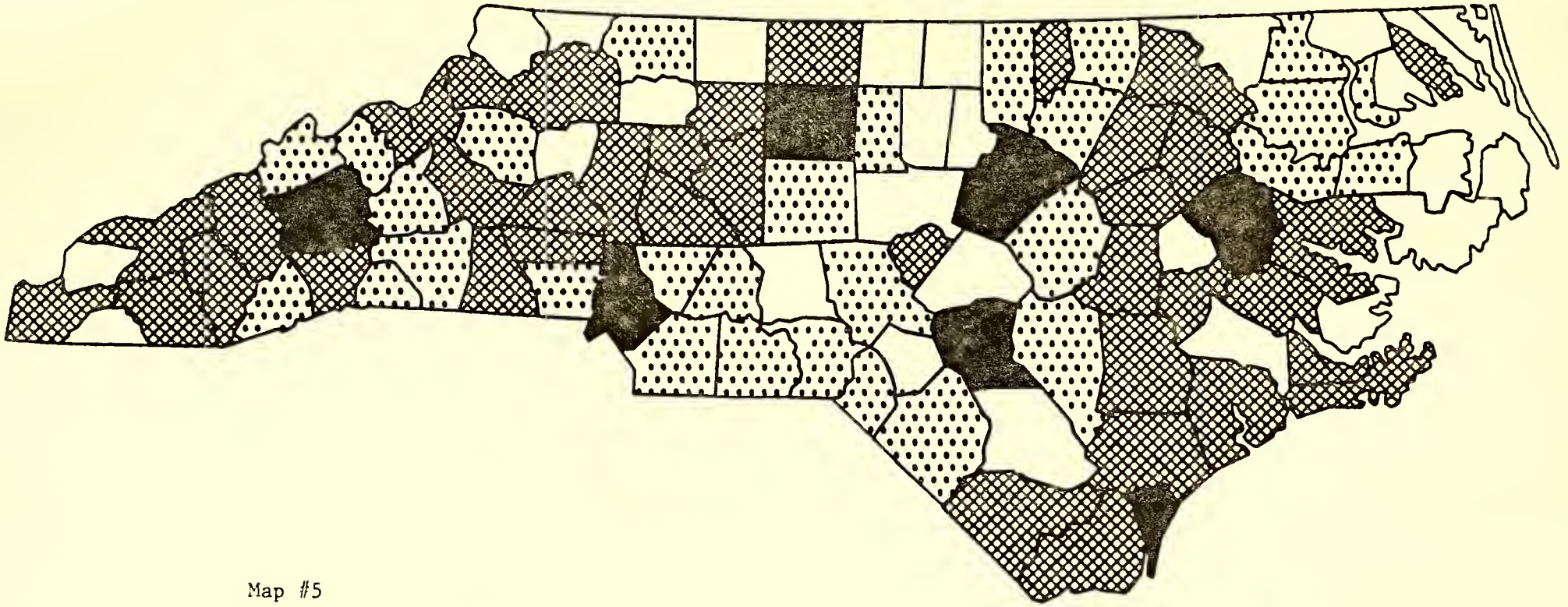
CONTINUING EDUCATION COURSES PER COUNTY JULY 1973 - JUNE 1974

104 - 1200

12 - 103

1 - 11

0 - 0



Map #5

NORTH CAROLINA AHEC PROGRAM

CONTINUING EDUCATION COURSES PER COUNTY JULY 1977 - JUNE 1978

104 - 750

12 - 103

1 - 11

0 - 0

TABLE IV. Growth of AHEC Continuing Education Activities 1974-1978*, in North Carolina

	1973-1974	1975-1976	1977-1978	Percentage Change 1974-1978
Number of Programs	1905	2708	3257	+71%
Number of Hours	7739	7570	10,582	+37%
Attendance	35,854	56,552	78,660	+119%
Total Contact Hours	146,488	248,466	298,582	+104%
Number of Counties with Programs	18	46	73	+306%

(*Beginning July 1,1977, AHEC Continuing Education programs which were "audio-visual only" in format (i. e., not accompanied by lecture, workshop, etc.) were excluded from the reporting process.)

Table V.

Continuing Education Accomplishments of the North Carolina AHEC Program
Combined Data for Nine AHECs: Number and Location of Programs,
And Attendance by Origin and Discipline of Participants
July 1, 1977 - June 30, 1978

Discipline	Primary AHEC Counties (N=9)		Regional AHEC Counties (N=87)		Total: All AHEC Counties (N=96)	
	Number of Programs	Attendance	Number of Programs	Attendance	Number of Programs	Attendance
Medicine	896	18,239	427	10,359	1,323	28,598
Dentistry	9	235	4	310	13	545
Nursing	342	11,021	314	10,242	656	21,263
Pharmacy	65	2,514	9	967	74	3,481
Public Health	42	1,166	17	1,403	59	2,569
Allied Health	396	9,409	198	7,181	594	16,590
Other*	344	2,809	194	2,805	538	5,614
TOTAL	2,094	45,393	1,163	33,267	3,257	78,660

* includes multi-disciplinary programs

The North Carolina AHEC Program

Goal #4: The Community (Manpower Distribution)

The social goal of the North Carolina AHEC Program is to help improve the geographic and specialty distribution of physicians and other health manpower. The Program accomplishes this by disseminating the educational process throughout the state. This dissemination improves the environment for medical practice making it more likely that physicians and others will both settle and remain in a community. This relates to the fact that the Program allows practitioners both to be students and teachers in their own community.

Accomplishments

1. The Program has close collaborative relationships with other federal (e.g. National Health Service Corps), state (e.g. Office of Rural Health Services), and local initiatives directed at improving physician supply and distribution. In many instances, AHEC has provided education and training services that have helped these other initiatives to be successful in certain communities.
2. North Carolina has enjoyed a significant improvement in the supply, geographic distribution and specialty distribution of physicians during the past eight years. The AHEC Program has played a role in this improvement in the following manner:
   A. By assisting communities in recruiting physicians. In Fayetteville, for example, over 20 physicians were recruited during the past year and most indicate that AHEC was a critical factor in their location decision.

B. By encouraging students and residents to consider community practice and to establish a life-long relationship with an AHEC both as a student and as a teacher.

C. By improving the climate for professional practice. Of those physicians who settled in North Carolina in 1976, 48% indicated that AHEC was an important factor in their decision. An indication of the importance physicians attach to the AHEC Program is that 18% of the state's private practitioners voluntarily teach in the AHEC Program.

D. By addressing the educational needs of all types of health manpower AHEC has improved the quality and morale of professional and support staff throughout the state. This accomplishment assures more effective medical care delivery and also serves to make the community more attractive to physicians. There are numerous examples of how these educational and support services come to bear on the professionals and support personnel in an entire county but a prototype story is that of Union County (see Figure A). This story is being duplicated in many other counties and will eventually help improve access to manpower in most of North Carolina's counties.

3. In addition to the accomplishments in manpower distribution, the process of regionalization for education and training has begun to generate important spinoffs in health planning and in services delivery.

A. Each AHEC works closely with the appropriate Health Systems Agency in relation to manpower planning and the initiation (or reduction) of training programs related to the manpower situation.

B. At least one rural county of 55,000 people has had an integrated system of primary and secondary care develop based upon a 20 physician private group practice. The practice and its three physician extender satellites consists of several physicians and nurse practitioners who once did AHEC rotations to the community. The practice setting continues to provide AHEC rotations so future generations of physicians will know how to set up similar models.

C. Several hospitals, stimulated by the need to develop a regional education program, have now instituted significant changes in services to avoid duplication. Examples include obstetrics-gynecology, pediatrics, radiation therapy, and "simpler" things like food services, laundry, and purchasing.

Figure A

Charlotte AHEC

Several years ago, the medical community of Union County felt that unless the facilities and professional environment of the community were improved, needed, health personnel would not choose to practice in the area. An initial request to the Charlotte AHEC came from the hospital to help with their volunteer staff. From this relationship the Charlotte AHEC was asked to help in procuring an In-Service Director of Education. Joan Yates has since worked with them in developing a program to train hospital personnel for a new respiratory therapy unit, a 24 hour seven day a week emergency room service, and continuing education programs in social service, laboratory procedures, anesthetics, pharmacy, radiology, nutrition, intensive pediatric care, geriatric nursing, and dental hygiene. Currently, Ms. Yates and Mary Lee Raske, assistant administrator for Nursing Services, are meeting with an epidemiologist in Charlotte to develop a new infection control program.

Up until a few months ago there was no way for physicians in Union County to take care of the ordinary heart attack, except for periodic monitoring. In the past it was safer to transfer those patients who were well enough to Charlotte. At the request of the hospital, the chief of cardiology, Dr. Marvin McCall, helped them to design a coronary care unit and provided special training to two of their physicians and three of their nurses. Simple cardiac monitoring problems are no longer referred to Charlotte from Union County. Now they only receive those patients with complicated problems or with electrocardiographic evidence that they may need a pacemaker.

The medical society of Union County desired a continuing education program for physicians. Through the efforts of Dr. David Evans and the assistance of the resources of the AHEC program this group has requested and received presentations and discussions on renal dialysis and renal transplant, fetal monitoring, cardiology, pulmonary embolism, ante-natal care, hypertension, and adolescent gynecology. The monthly sessions are attended not only by the physicians of the area, but also by the paramedical staff of the hospital and the Health Department.

The Health Department of Union County was expanding and requested technical assistance in-developing a program in leadership skills and staff relationships. AHEC has also been asked to provide the Health Department nurses with continuing education. Recently the Health was provided with a link with experts at the School of Public Health at the University of North Carolina and at North Carolina State University who are developing a program for sanitarians which will be relevant and specific to the soil and hydrology in the Union County area. Jim Brown, director of the Health Department, maintains that AHEC has also facilitated a cooperative working relationship between his Department, the hospital and the greater medical community which has been a key to the success of weekly clinics in pre-natal care, family planning, cancer, and venereal disease.

A year ago there was no pediatrician in Union County. The Charlotte AHEC encouraged one of its former pediatric residents to participate in the pediatric well baby clinic of the Health Department. Dr. Richard Taylor liked the setup so much that he established a private practice in the community. Before he established his practice, Dr. Taylor admitted that he had some concern about being professionally isolated. His experience with the expanding facilities of the hospital, the active continuing education program of the medical society, access to the services of Charlotte Memorial Hospital, and the availability, through AHEC, of monthly consultations at the U.N.C. School of Medicine, alleviated these fears. Since the arrival of the pediatrician in Union County several nurses from the community hospital have received training in pediatric care at the AHEC. Dr. Taylor is discussing cooperation with the Health Department, has acted as a preceptor for a nurse practitioner, and has convinced another pediatrician to join him in his practice.

Similarly, the county had no pathologist or physical therapist a year ago. Dr. Lewis Bartles, an AHEC pathology resident who finished training last year went and established his practice. Union Hospital now has a histologist, cytologist, and a laboratory linkage with the Charlotte Memorial Hospital. Next, AHEC helped the hospital contact an expert at the University Health Science Center, who came down to Union County to discuss the feasibility of a physical therapy program. They now have a part-time physical therapist.

The county has serious dental problems. Dental students from Chapel Hill, as part of their education, now have off-campus rotations through the Charlotte AHEC in a screening clinic for some of the elderly in a county nursing home, many of whom are getting remedial dental care.

The AHEC Program did not *do* anything to Union County. As Ms. Raske phrased it "AHEC is not selling anything." The initiative for all these developments has come from a variety of institutions and individuals in Union County. In the words of Dr. Bryant L. Galusha, Director of the Charlotte AHEC, "The accomplishments of the Medical Community of Union County add credence to the AHEC concept. Through the partnership between AHEC and this concerned and dedicated group of health professionals, giant strides have obviously been made towards improving the quantity and quality of their health services. By approaching their problems with zeal and dedication, they won the respect and admiration of the AHEC Staff and enhanced AHEC's commitment to continue this fruitful relationship."

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North Carolina Area Health Education Centers Program.

The North Carolina AHEC Program (1972-78)